



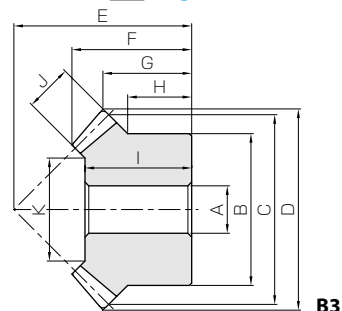
# PM Plastic Miter Gears

Module 1 ~ 4



Specifications	
Precision grade	JIS B 1704 grade 4 *
Gear teeth	Gleason
Pressure angle	20°
Material	MC901
Heat treatment	—
Tooth hardness	115 ~ 120HRR

\* The precision grade of this product is equivalent to the value shown in the table.



Spur Gears

Helical Gears

Internal Gears

Racks

CP Racks & Pinions

Miter Gears

Bevel Gears

Screw Gears

Worm Gear Pair

Bevel Gearboxes

Other Products

Catalog No.	Gear ratio	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length	Hub width
					A	B	C	D	E	F	G	H
PM1-20	1	<b>m1</b>	20	B3	6	16	20	21.41	20	13.95	10.71	8
PM1.25-20		<b>m1.25</b>	20	B3	8	22	25	26.77	23	15.27	11.38	9
PM1.5-20		<b>m1.5</b>	20	B3	8	26	30	32.12	30	21.24	16.06	13
PM2-20		<b>m2</b>	20	B3	10	34	40	42.83	37	24.89	18.41	14
PM2.5-20		<b>m2.5</b>	20	B3	12	42	50	53.54	48	32.54	24.77	19
PM3-20		<b>m3</b>	20	B3	14	50	60	64.24	58	39.84	30.12	23
PM3.5-20	1	<b>m3.5</b>	20	B3	20	60	70	74.95	65	44.13	32.47	25
PM4-20		<b>m4</b>	20	B3	20	64	80	85.66	75	50.78	37.83	27
PM1-25		<b>m1</b>	25	B3	6	20	25	26.41	23	15.16	11.21	8
PM1.25-25		<b>m1.25</b>	25	B3	8	25	31.25	33.02	28	17.88	13.26	9.25
PM1.5-25		<b>m1.5</b>	25	B3	8	30	37.5	39.62	34	22.25	16.31	11.5
PM2-25		<b>m2</b>	25	B3	10	40	50	52.83	40	24.33	16.41	10
PM2.5-25	1	<b>m2.5</b>	25	B3	14	50	62.5	66.04	50	30.41	20.52	12.5
PM3-25		<b>m3</b>	25	B3	15	60	75	79.24	60	37.81	24.62	15

[Caution on Product Characteristics]

- ① Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash. Please see the section "Design of Plastic Gears" in the technical reference (Page 693).
- ② The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see page 421 for more details.
- ③ Dimensions of the outside diameter, the overall length and crown to back length are all theoretical values, and some differences will occur due to the corner chamfering of the gear tips.
- ④ Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate with steel gears.

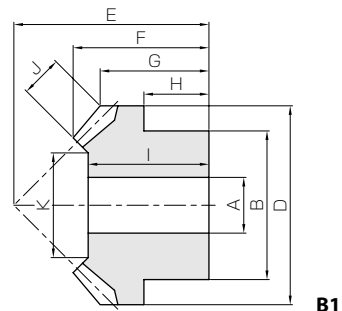


# DM Injection Molding Miter Gears

Module 0.5 ~ 1.5



Specifications	
Precision grade	JIS B 1704 grade 8
Gear teeth	Gleason
Pressure angle	20°
Material	Duracon (M90-44)
Heat treatment	—
Tooth hardness	110 ~ 120HRR



Catalog No.	Gear ratio	Module	No. of teeth	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length
					AH7	B	C	D	E	F	G
DM0.5-20	1	<b>m0.5</b>	20	B1	3	8	10	10.71	11	7.97	6.35
DM0.8-20		<b>m0.8</b>	20	B1	5	12	16	17.13	16	10.83	8.56
DM1-20		<b>m1</b>	20	B1	6	16	20	21.41	21	14.62	11.71
DM1.5-20		<b>m1.5</b>	20	B1	8	20	30	32.12	30	20.59	16.06

Hub width	Length of bore	Face width	Holding surface dia.	Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash (mm)	Weight (kg)	Catalog No.
H	I	J	K	Bending strength	Bending strength			
4	7	2.5	4.93	0.082	0.0083	0.04~0.14	0.57	<b>DM0.5-20</b>
5	10	3.5	10.1	0.31	0.032	0.06~0.16	1.93	<b>DM0.8-20</b>
7	13	4.5	11.27	0.54	0.055	0.08~0.18	4.28	<b>DM1-20</b>
10	19	7	18.2	0.96	0.098	0.10~0.20	11.8	<b>DM1.5-20</b>

[Caution on Product Characteristics]

- ① The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 421 for more details.
- ② The bore tolerance is generally -0.05 to -0.1 but may be + values at the central portion of the hole.
- ③ To find the dimensional tolerance of these gears, please see the Dimensional Tolerance Table.

[Caution on Secondary Operations]

- ① Avoid performing secondary operations as reworking material may expose air bubbles (voids).

■ Dimensional tolerance table (Unit : mm)

Range	Tolerance
below 3 mm	± 0.20
3 up to 6 mm	± 0.25
6 up to 10 mm	± 0.30
10 up to 18 mm	± 0.35
18 up to 30 mm	± 0.40
30 mm up	± 0.50

Length of bore	Face width	Holding surface dia.	Allowable torque (N-m)		Allowable torque (kgf-m)		Backlash (mm)	Weight (kg)	Catalog No.
			Bending strength	Surface durability	Bending strength	Surface durability			
12	5	9.86	0.22	—	0.022	—	0~0.23	0.0028	<b>PM1-20</b>
13	6	13.03	0.42	—	0.043	—	0~0.24	0.0053	<b>PM1.25-20</b>
19	8	15.37	0.76	—	0.077	—	0~0.25	0.011	<b>PM1.5-20</b>
22	10	21.72	1.74	—	0.18	—	0~0.26	0.023	<b>PM2-20</b>
29	12	28.06	3.34	—	0.34	—	0~0.27	0.046	<b>PM2.5-20</b>
35	15	31.57	5.89	—	0.60	—	0~0.28	0.080	<b>PM3-20</b>
40	18	39.09	9.47	—	0.97	—	0~0.30	0.12	<b>PM3.5-20</b>
45	20	43.43	14.0	—	1.42	—	0~0.32	0.17	<b>PM4-20</b>
14	6	15.03	0.36	—	0.036	—	0~0.23	0.0051	<b>PM1-25</b>
16	7	18.7	0.67	—	0.068	—	0~0.24	0.0093	<b>PM1.25-25</b>
19	9	19.54	1.20	—	0.12	—	0~0.25	0.017	<b>PM1.5-25</b>
20	12	26.06	2.84	—	0.29	—	0~0.26	0.033	<b>PM2-25</b>
26	15	34.57	5.55	—	0.57	—	0~0.27	0.064	<b>PM2.5-25</b>
32	20	37.43	10.0	—	1.02	—	0~0.28	0.11	<b>PM3-25</b>

- [Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 422) when performing modifications and/or secondary operations for safety concerns. Haguruma Kobo, the KHK's system for quick modification of KHK stock gears is also available.
- ② Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

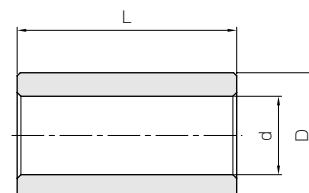


BB

## Sintered Metal Bushings



The table shows a series of standard metal bushings that can be pressed into standard Injection Molded Gears. They can be used as bearing metal on idler gears or to reduce the bore of the gears.



T8

Catalog No.	I.D. of bushing	O.D. of bushing	Length	Products that can use the bushing
	$d \begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$	$D \begin{smallmatrix} +0.02 \\ -0.01 \end{smallmatrix}$	$L \begin{smallmatrix} 0 \\ -0.3 \end{smallmatrix}$	
<b>BB30507</b>	3	5	7	DM0.8
<b>BB30608</b>	3	6	8	DM1
<b>BB40609</b>	4	6	9	DM1
<b>BB50814</b>	5	8	14	DM1.5

Material : Oil impregnated sintered bronze.

